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DISCUSSION OF PROCEEDINGS - SEPARATES

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CITY PLANNING DIVISION

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**DISCUSSION OF THE ENGINEER'S ROLE IN
METROPOLITAN TRAFFIC PLANNING
PROCEEDINGS-SEPARATE NO. 191**

JAMES L. FOLEY, Jr.,³ A. M. ASCE.—A lucid description of the role of the

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engineer in solving one of the most vexing of city planning problems has been presented by Mr. Braff.

Implied, but not emphasized, by the author are two important functions which are (or should be) the traffic engineer's responsibility. Public parking facilities and mass-transit service are such integral parts of the street transportation system that the engineer should exercise a considerable influence on their design and operation. This influence may be exercised directly if the engineer has full responsibility within his organization, or indirectly, through interdepartmental coordination.

The rapid growth in motor-vehicle registration during the period following World War II indicates the necessity of obtaining the greatest traffic efficiency possible within the existing rights of way. To achieve this end, it appears that rush-hour parking eventually will have to be prohibited on most major thoroughfares.

As stated by the author (under the heading, "Immediate Program: Operations") regulation of curb parking is one of the devices available to the engineer for improving the efficiency of a street system. In spite of the obvious advantages of the elimination of curb parking, the engineer often must "sell" good engineering practices to the laymen in a municipal government. In addition to the regulation of curb parking, the traffic engineer should approve the functional design of off-street parking facilities. It is imperative that the engineer review and approve the plans for all off-street facilities because operational defects (such as lack of adequate reservoir space or poor entrance design) can reduce the efficiency of a street as greatly as does curb parking.

It is obviously impossible for most cities to provide all the parking space likely to be required in the future. To meet this need for space, close cooperation is required between the various engineers charged with the responsibility of determining and planning for future traffic. If based on sound criteria, zoning regulations give some assurance that in the new growth and redevelopment areas of cities the streets will be available for the movement of traffic. Additional studies are necessary to provide data for determining sound criteria. J. T. Thompson, M. ASCE, and J. T. Stegmaier, J. M. ASCE, have suggested a method of obtaining these criteria from origin-destination studies.⁴

⁴"The Effect of Building Space Usage on Traffic Generation and Parking Demand," by J. T. Thompson and J. T. Stegmaier, *Proceedings*, Highway Research Board, National Research Council, Washington, D. C., Vol. 28, 1948, p. 320.

Before the Chicago (Ill.) zoning ordinance was revised to require adequate off street parking facilities, studies were made of the parking needs of various land uses. The results of these studies were incorporated in the proposed revision to the zoning ordinance.⁵ This ordinance is a good example of interdepart-

⁵"Proposal for Amendment of Chicago Zoning Ordinance in Reference to Off-Street Parking Facilities," *Committee Pamphlet No. 15*, City Clerk, Chicago, Ill., July, 1953.

mental coordination in that the studies and recommendations were the result of the joint efforts of the Bureau of Street Traffic of the Chicago Plan Commission, and other interested departments.

Transit.—Adequate off-street parking, improved traffic-control devices, grade separations at major intersections, and similar remedial measures do much to improve the flow of traffic. It appears, however, that mass-transit service must be provided (at least in the larger cities) if such cities are to continue to exist as at present (1953). A city's reliance on mass transit is a direct function of the city's size. Some major cities have struggled along without transit service for short periods of time. Detroit (Mich.) is one of the largest cities to have done so. However, certain cities (such as New York, N. Y., Chicago, and Boston, Mass.) would be practically paralyzed by the lack of mass-transit facilities. It is physically impossible to park the number of passenger cars that would be required to transport the people normally present in the central business districts of these cities.

It behooves the traffic engineer, in planning adequate highways, to do all that possibly can be done to encourage general use of mass transit and to assist the transit company in its efforts to provide convenient, expeditious service. The traffic engineer should promote the type of long-range planning which makes adequate provision for mass-transit service.

LLOYD BRAFF⁶.—The writer finds no point of controversy in Mr. Foley's discussion. No questions were raised, and further expository material is not required. Hence, no further comment will be added.

6. City Traffic Engr., Dallas, Tex.

DISCUSSION OF RECENT AIRPORT
DESIGN AND DEVELOPMENT
PROCEEDINGS-SEPARATE NO. 196

LOUIS A. NEES,³ A.M. ASCE.—The writer concurs in the author's opinion

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concerning intersecting runway patterns. The development of heavier aircraft with more stability against beam winds, and the development of cross-wind landing gears, tend to eliminate the necessity for intersecting runways that provide for all possible wind variations.

Table 2 would be increased in value if it were expanded to indicate the type of aircraft for which the size determinations are listed. It does not seem probable that Table 2 could be applied to a wide range of aircraft types.

The writer would question the author's statements regarding the drawbacks in the present (1953) design methods for aircraft pavements. It is true that design guides are generally empirical. However, to a great extent, the criteria (especially those adopted by the Corps of Engineers) are the result of extensive and continuing correlation with tests and analyses of existing pavements. It is extremely possible that a theoretical analysis can never determine subgrade strengths and pavement thicknesses. Judgment and experience must always play a major part in this particular type of design. However, the progress made (by various governmental agencies) in improving design procedures has resulted in logical and reliable methods of pavement design.

Mr. Hahn states that the spillage of jet fuels is not a serious problem, but he considers that the effect of the jet blast is significant. On the basis of the writer's limited experience with pavements subjected to both of these factors, it is believed that the reverse is true. The jet-blast effects appear to be significant only while the airplane is stationary; deterioration of the pavement is appreciable only on asphaltic types of construction and on seeded shoulders. In military operations, these problems have been solved by the use of portable blast deflectors and by the provision of appropriate stabilization in areas where warm-ups would otherwise cause erosion of the shoulders. Moreover, the use of Portland-cement concrete in such areas eliminates a great many of the problems connected with jet blast. Spillage, however (as a result of the relatively low volatility of the fuels), can be a significant factor—especially on aprons and work areas where the pavements are constructed of asphaltic concrete. In the writer's opinion, there has not yet (as of 1953) been produced an asphaltic pavement which provides any reliable resistance to damage from spillage of jet fuels. It is in this field that continuing study and development are especially needed if bituminous pavements are to compete satisfactorily with Portland-cement concrete.

It is noted that the author makes no mention of the problem of noise suppression and control. With the advent of increased traffic and higher-powered, jet-engine-propelled aircraft this factor becomes an important one, not only in the effect on surrounding areas but also in the effect on workers engaged in the maintenance and overhaul facilities. Considerable strides in the study of this problem have been made both by aircraft manufacturers and by the

United States Air Force (USAF). From the USAF's continuing study, engine-test cells have evolved which are capable of accommodating all present (1953) types and contemplated future types of jet engines without exceeding the permissible noise levels in work areas around the cells. A number of aircraft manufacturers have interested themselves in this problem to the extent of devising and constructing "noise barriers" and portable devices to suppress aircraft noises during run-up periods. There still exists a need for a great deal of study and effort, but the problem is being vigorously attacked by both the USAF and private industry, and practical solutions appear to be within the grasp of the profession.

It is interesting to note that Mr. Hahn's statements regarding the use of counterpoise systems for lighting installations are in conformance with USAF policy in these matters. Such devices are required on all new airfield lighting installations built by the USAF.

PHILIP A. HAHN.⁴—With respect to Mr. Nees' suggestion that Table 2

⁴ Chf., Airport Eng. Div., Civ. Aeronautics Administration, U. S. Dept. of Commerce, Washington, D. C.

would be of more value if it were expanded to indicate the type of aircraft for which the size dimensions are listed, it should be noted that the values are for the current (1953) types of four-engine aircraft used in civil operations.

In connection with his discussion on pavement design, Mr. Nees has misinterpreted the statements covering certain drawbacks in design methods. Actually, these design methods are satisfactory, and the proof of their suitability is found in the performance of pavements designed on the basis of these criteria. Mr. Nees is correct in regarding experience and judgment as major bases for pavement design.

The intent of the writer in noting the drawbacks was to supply engineers with a brief review of the present (1953) status of pavement-design criteria as well as to indicate the studies necessary for improving the design procedures. When and if analytical methods or rational methods of design are developed from investigations, the basic information must still be obtained from the correlation of pavement performance with the characteristics of the subgrade soil, the paving materials, and the wheel loadings.

Corrections for Transactions.—The statement (under the heading, "Airport Configuration") that " * * * the average run-up time was generally in proportion to the size of the airport" should be changed to " * * * the average run-up time was generally in proportion to the size of the aircraft."

DISCUSSION OF THE TRAINING OF CITY PLANNERS
PROCEEDINGS-SEPARATE NO. 423

JORMA J. SALOVAARA¹, A. M. ASCE.—In his analysis of the Current Trends Affecting City Planning Instruction, Mr. Menhinick states that the "usefulness (of the Master Plan) is limited by the fact that many different public agencies and thousands upon thousands of individuals daily make city planning and developmental decisions." The fact, far from limiting the usefulness of a Master Plan, makes imperative the need for this 'key tool.' While "most certainly not the end product of planning," some such guide containing an over-all approach, realistically conceived and sufficiently flexible to permit changes or variations in even its principal recommendations and one capable of widespread dissemination, is needed if a proper coordination of the many diverse activities and community interests is to be achieved and directed toward the planning and building of a better city. That "most (Master Plans) have wound up on library shelves rather than as accomplishments in brick and steel" is not a failure inherent in the so-called 'blue-print' but is rather the result of a failure to promote and sell the concept underlying a "planning city" as differentiated from the "planned city". More often than not, good solutions to city planning problems have gone begging for want of an ability or a technique to promote and sell them to those who must implement them.

In presenting the Content of the Planning Curriculum for the Graduate City Planning Program at Georgia Institute of Technology, the author points out that "It is . . . important that the planner learn how to conduct hearings and conferences in a manner that will effectively elicit the viewpoints of the participants as an important step in the process of democratic planning decision making." It is even more vital that planners understand generally the *why* for such procedure and, specifically, the fundamental importance of active citizen participation in both the formulation of the master plan and in the continuing planning process, if they are to ever realize the adoption of even a limited number of the solutions recommended or proposals advanced.

Just as the planner must understand and deal with a community's economic, political and social problems before he can hope to present solutions to its physical problems, so must the solutions recommended be understood and sold to those who will actually implement the proposals of the master plan. The careful selection of a citizen's committee and a well-planned organization of its task form teams for surveying individual aspects or technical phases requiring consideration, will prove invaluable to the city planner and his staff. Such a procedure is well nigh indispensable if a general understanding of the continuing nature of

1. Exec. Sec., Schuylkill County Branch, Pennsylvania Economy League, Inc., Pottsville, Pa.

planning and the specific acceptance of a master plan are to be had. Truly representative bodies comprised of key citizens bringing the views of three groups, those with:

- 1) Interests technically involved;
- 2) Interests as taxpayers;
- 3) Interests as government administrators;

due concern having been given to a geographical and a political distribution and to the selection of women as well as men, should assure a consideration and treatment of all the underlying problems and permit a satisfactory compromise to be reached for most of the conflicts present. In any event, such participation by the citizens concerned will serve to negate the often heard charge that the plan is that of a special group or interest or was conceived by an 'outside expert.' Such participants form a corps of salesmen prepared to explain and defend the decisions made, to promote and sell the master plan's proposals and recommendations and to secure the compliance and enforcement of its provisions through building and zoning regulations should such action become desirable or necessary.

The best-made master plan will go astray if its dissemination is restricted because too few copies at too high a price were budgeted for; if the mass media of information - newspapers, local magazines, radio and television - were not brought into and retained in the act or if its promotion among the school children of the community was overlooked. Inculcation as to the benefits obtainable from a systematic planning for the growth of a city and the orderly revision of such plans in the face of changing needs, can not be undertaken too early in the lives of its future active citizens.